CLAIMS

1. A method for controlling a liquid crystal display having disposed therein a polymer dispersed liquid crystal layer with a composition of a polymer and a liquid crystal, comprising steps of:

controlling temperature of said polymer dispersed liquid crystal layer formed on a heating unit by controlling current flowing through said heating unit wherein the glass transition temperature (T_g) of said polymer used with said liquid crystal and the phase transition temperature (TNI) of said liquid crystal satisfies the condition of $-20 \leq (T_g - T_{NI}) \leq 20$, and wherein said polymer is a thermoplastic resin so that the temperature of said polymer dispersed liquid crystal layer is below a transition temperature where liquid crystal transfers between states of opaque and transparent, placing said polymer and said liquid crystal under phase separation,

controlling the temperature of said polymer dispersed liquid crystal layer above said transition temperature by controlling current flowing through said heating unit, placing said polymer to solubilize said liquid crystal.

2. A method for controlling a liquid crystal display according to claim 1, wherein said heating unit is provided between a pair of electrodes, and said polymer

dispersed liquid crystal layer is provided on one of said pair of electrodes.

3. A method for controlling a liquid crystal display according to claim 1, wherein said heating unit is provided between a pair of electrodes, and said polymer dispersed liquid crystal layer is provided directly on said heating unit.

4. A method for controlling a liquid crystal display according to claim 1, wherein said polymer is a thermoplastic resin, and the glass transition temperature (T_g) of said polymer used with said liquid crystal is close to the phase transition temperature (TNI) of said liquid crystal, satisfies the condition of $-20 \leq (T_g - T_{NI}) \leq 20$.

5. A method for controlling a liquid crystal display according to claim 4, wherein said polymer is an acryl-based resin.

6. A method for controlling a liquid crystal display according to claim 5, wherein said acryl-based resin is polymethyl methacrylate.

7. A method for controlling a liquid crystal display according to claim 1, wherein the weight ratio of polymer : liquid crystal of said composition is in the

range of 1:10 to 10:1.

8. A method for controlling a liquid crystal display according to claim 7, wherein the weight ratio of polymer : liquid crystal of said composition is in the range of 1:2 to 3:1.

9. A method for controlling a liquid crystal display according to claim 8, wherein the weight ratio of polymer : liquid crystal of said composition is 1:1.

10. A method for controlling a liquid crystal display according to claim 1, wherein a thermal conduction member is further provided under said polymer dispersed liquid crystal layer.

11. A method for controlling a liquid crystal display according to claim 10, wherein said thermal conduction member has a lattice shape.

12. A method for controlling a liquid crystal display according to claim 1, said liquid crystal display having matrix structure.

13. A method for controlling a liquid crystal display according to claim 1, wherein a colored background plate having a color different from that of said polymer dispersed liquid crystal layer is further

provided under said polymer dispersed liquid crystal layer.

14. A method for controlling a liquid crystal display according to claim 3, wherein said polymer dispersed liquid crystal layer is provided directly on said heating unit having a uniform thickness.

15. A method for controlling a liquid crystal display according to claim 3, wherein said polymer dispersed liquid crystal layer is provided directly on said heating unit of which the thickness is decreased or increased in the direction from one end to the other end, and a power circuit coupled to said pair of electrodes connected to the opposite ends of said heating unit has a variable resistor.

16. A method for controlling a liquid crystal display according to claim 2, wherein said heating unit is formed of a plurality of heating elements of different resistance values, and a power circuit coupled to said pair of electrodes connected to the opposite ends of said heating unit has a variable resistor.

17. A method for controlling a liquid crystal display according to claim 1, wherein said heating unit is formed of a plastic sheet that has a conductive metal formed and etched in a wave form.